

IN THE CLAIMS:

Claim 1 (currently amended) A resin bonded rare earth magnet, ~~compression molded from a rare earth-transition metal alloy powder and a thermosetting resin~~, comprising: a magnet body ~~comprising~~ compression molded from a mixture of ~~the~~ a thermosetting resin and ~~the~~ a rare earth-transition metal alloy powder with a particle size of between 20 and 300 microns such that the magnet body comprises powdered magnetic particles made of the rare earth-transition metal alloy powder;

a filling material with a particle size between 0.1 and 15 microns mixed with particles of a powdered thermosetting resin, then filled in depressions between the powdered magnetic particles ~~being said rare earth-transition metal alloy powder on a surface of said magnet~~ without accumulation on level surfaces of the magnetic particles so as to allow said magnet to have a surface roughness of less than 3 microns, ~~the filling material being fixed when the powdered thermosetting resin mixed therewith is cured~~ and then fixed by heat curing of the powdered thermosetting resin; and

a corrosion inhibiting coat made from a synthetic resin applied to the surface of said magnet.

Claim 2 (previously presented) A resin bonded rare earth magnet according to claim 1, wherein the corrosion inhibiting coat made from synthetic resin applied to the surface of said magnet has a thickness of between 1 and 30 microns.

Claim 3 (currently amended) A resin bonded rare earth magnet, comprising:

a magnet body;

a filling material to directly fill in depressions on the magnet body such that a surface of the magnet body has a surface roughness of less than 3 microns; and

a synthetic resin coat covering applied to an outer surface of said magnet body and said filling material with first portions of the synthetic resin coat contacting the magnet body and second portions of the synthetic resin coat contacting the filling material.

Claim 4 (previously presented) The resin bonded rare earth magnet according to claim 3, wherein the filling material smooths the depressions on the magnet body.

Claim 5 (previously presented) The resin bonded rare earth magnet according to claim 3, wherein the synthetic resin coat is a corrosion inhibiting coat.

Claim 6 (previously presented) The resin bonded rare earth magnet according to claim 3, wherein a surface of the synthetic resin coat has a surface roughness of less than 3 microns.

Claim 7 (previously presented) The resin bonded rare earth magnet according to claim 3, wherein the filling material directly fills in the depressions.

Claim 8 (withdrawn/currently amended) A method of forming a the resin bonded rare earth magnet of claim 1, comprising:

providing a the magnet body comprising mixing a by compression molding the
thermosetting resin and ~~the~~ particles of a the rare earth-transition metal alloy powder having the
a particle size between 20 to 300 microns; ~~and~~

directly filling a the filling material with a the particle size between 0.1 and 15 microns
and the powdered thermosetting resin in depressions between the particles of the metal alloy
powder and heat curing the powdered thermosetting resin to fix the filling material in the
depressions such that the surface of the filled magnetic body has a surface roughness of less
than 3 microns; and applying the corrosion inhibiting coat to the surface of the filled magnetic
body.

Claim 9 (previously presented) A resin bonded rare earth magnet according to claim 1, wherein
the filling material and the thermosetting resin are filled in the depressions by ball milling.

Claim 10 (new). A resin bonded rare earth magnet according to claim 1, wherein first portions
of the corrosion inhibiting coat are in contact with the powdered magnetic particles and second
portions of the corrosion inhibiting coat are in contact with the filling material.

Claim 11 (new). A resin bonded rare earth magnet comprising:

(a) a magnet body formed by compression molding a mixture of a first thermosetting
resin and a rare earth-transition metal alloy powder having a particle size of between 20 and
300 microns such that the magnet body comprises powdered magnetic particles comprising the
rare earth-transition metal alloy powder, said magnet body comprising a surface having

depressions and projections;

(b) a filling material with a particle size of between 0.1 and 15 microns selectively fixed by a second thermosetting resin to the surface of the magnet body only in the depressions so as to cause the surface of the magnet body with the filling material to be smoother than the surface of the magnet body without the filling material, the surface of the magnet body with the filling material having a surface roughness of less than 3 microns; and

(c) a corrosion inhibiting coat comprising a synthetic resin covering the surface of the magnet body with first portions of the corrosion inhibiting coat in contact with the powdered magnetic particles and second portions of the corrosion inhibiting coat in contact with the filling material.

Claim 12 (new). The resin bonded rare earth magnet according to claim 11 , wherein each of the first thermosetting resin and the second thermosetting resin is an epoxy resin.